



JCOG Rec'd PCT/PTO 29 SEP 2005 CTB

Dkt. 66833-A-PCT-US/JPW/AJM/BJA

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jingyue Ju  
U.S. Serial No. : 10/521,206  
Int'l Filing Date : July 11, 2003  
For : MULTIPLEX GENOTYPING USING SOLID PHASE  
CAPTURABLE DIDEOXYNUCLEOTIDES AND MASS  
SPECTROMETRY

1185 Avenue of the Americas  
New York, New York 10036  
September 26, 2005

Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

COMMUNICATION IN RESPONSE TO JULY 26, 2005 NOTIFICATION OF  
MISSING REQUIREMENTS UNDER 35 U.S.C. §371 IN THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)

This Communication is submitted in response to the July 26, 2005 Notification of Missing Requirements under 35 U.S.C. §371 in the United States Designated/Elected Office (DO/EO/US) issued by the United States Patent and Trademark Office in connection with the above-identified application. A response to this July 26, 2005 Notification is due September 26, 2005. Accordingly, this Communication is being timely filed.

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Int'l Filing Date: July 11, 2003  
Page 2

**Declaration**

The Notification of Missing Requirements indicates that the Oath or Declaration is not executed. Applicant attaches hereto a copy of the Notice as **Exhibit A**. In response, applicant submits as **Exhibit B** hereto a signed Declaration and Power of Attorney pursuant to 37 C.F.R. §1.53(f). In compliance with 37 C.F.R. §1.497(a) and (b), the Declaration refers to the international application's above-identified International Application number and international filing date.

The surcharge under 37 C.F.R. §1.492(e) for a small entity for submitting the enclosed Declaration is SIXTY FIVE (\$65.00). Accordingly, a check for this amount is enclosed.

**Sequence Listing**

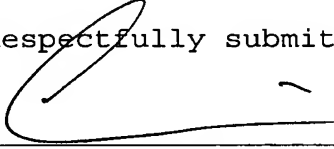
The July 26, 2005 Notification also indicates that the application allegedly fails to comply with the requirements of 37 C.F.R. §1.821 - 1.825. In response, applicant submits herewith as **Exhibit C**, a paper copy of the Sequence Listing, a C.R.F. Sequence Listing as **Exhibit D**, and a Statement in Accordance with 37 C.F.R. §1.821(f) as **Exhibit E**. Applicant maintains that the Sequence Listing attached hereto contains no new matter.

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If a telephone interview would be of assistance in advancing prosecution of the subject application, applicant's undersigned attorneys invite the Examiner to telephone them at the number provided below.


No fee, apart from the total enclosed surcharge of \$65.00, is deemed necessary in connection with the filing of this Communication. However, if any other fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,

  
John P. White  
Registration No. 28,678  
Alan J. Morrison  
Registration No. 37,399  
Attorneys for Applicants  
Cooper & Dunham LLP  
1185 Avenue of the Americas  
New York, New York 10036  
(212) 278-0400

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

  
Alan J. Morrison  
Reg. No. 37,399

9/26/01  
Date



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

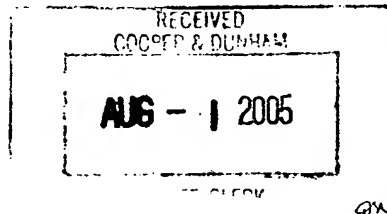
U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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10/521,206

Jingyue JU

0575/66833APCT-  
US/JPW/MJW

23432  
COOPER & DUNHAM, LLP  
1185 AVENUE OF THE AMERICAS  
NEW YORK, NY 10036



INTERNATIONAL APPLICATION NO.

PCT/US03/21818

I.A. FILING DATE

PRIORITY DATE

07/11/2003

07/12/2002

CONFIRMATION NO. 5439

371 FORMALITIES LETTER



\*OC000000016610109\*

Date Mailed: 07/26/2005

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Indication of Small Entity Status
- Copy of the International Application filed on 01/12/2005
- Copy of the International Search Report filed on 01/12/2005
- Biochemical Sequence Diskette filed on 01/12/2005
- Oath or Declaration filed on 01/12/2005
- Biochemical Sequence Listing filed on 01/12/2005
- Request for Immediate Examination filed on 01/12/2005
- U.S. Basic National Fees filed on 01/12/2005

2mo: 9/26/05

3mo: 10/26/05

4mo: 11/26/05

5mo: 12/26/05

6mo: 1/26/06

7mo: 2/26/06 gsc

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date. The current oath or declaration does not comply with 37 CFR 1.497(a) and (b) in that it:
  - is not executed in accordance with either 37 CFR 1.66 or 37 CFR 1.68.
- \$65 Surcharge for providing the oath or declaration later than 30 months from the priority date (37 CFR 1.492(e)) is required.

## SUMMARY OF FEES DUE:

Total additional fees required for this application is \$65 for a Small Entity:

Applicant: Jingyue Ju  
U.S. Serial No.: 10/521,206  
Filed: July 11, 2003  
Exhibit A

- **\$65 Late oath or declaration Surcharge.**

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- **For Rules Interpretation, call (571) 272-0951**
- **For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.**
- **Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)**

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

FRANCINE YOUNG

Telephone: (703) 308-9140 EXT 215

**PART 1 - ATTORNEY/APPLICANT COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/521,206	PCT/US03/21818	0575/66833APCT- US/JPW/MJW

## STIC Biotechnology Systems Branch

### RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/521,206  
Source: PG/10  
Date Processed by STIC: 1/25/05

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05): U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

## Raw Sequence Listing Error Summary

### ERROR DETECTED

### SUGGESTED CORRECTION

SERIAL NUMBER: 10/521,206

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1        Wrapped Nucleics  
    Wrapped Aminos     The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2        Invalid Line Length     The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3        Misaligned Amino  
    Numbering     The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4        Non-ASCII     The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5        Variable Length     Sequence(s)        contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6        PatentIn 2.0  
    "bug"     A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)       . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7        Skipped Sequences  
    (OLD RULES)     Sequence(s)        missing. If intentional, please insert the following lines for each skipped sequence:  
                          (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
                          (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
                          (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
                          This sequence is intentionally skipped  
  
                          Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8        Skipped Sequences  
    (NEW RULES)     Sequence(s)        missing. If intentional, please insert the following lines for each skipped sequence.  
                          <210> sequence id number  
                          <400> sequence id number  
                          000
- 9        Use of n's or Xaa's  
    (NEW RULES)     Use of n's and/or Xaa's have been detected in the Sequence Listing.  
                          Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
                          In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10        Invalid <213>  
    Response     Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11        Use of <220>     Sequence(s)        missing the <220> "Feature" and associated numeric identifiers and responses.  
                          Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
                          (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12        PatentIn 2.0  
    "bug"     Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13        Misuse of n/Xaa     "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



PCT

## RAW SEQUENCE LISTING

DATE: 01/25/2005

PATENT APPLICATION: US/10/521,206

TIME: 09:48:39

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\01252005\J521206.raw

3 <110> APPLICANT: The Trustees of Columbia University in the City of New York et al.  
 5 <120> TITLE OF INVENTION: Multiplex Genotyping Using Solid Phase Capturable  
 deoxynucleotides And  
 6 Mass Spectrometry  
 9 <130> FILE REFERENCE: 0575/66833-A-PCT-US  
 -> 11 <140> CURRENT APPLICATION NUMBER: US/10/521,206  
 -> 12 <141> CURRENT FILING DATE: 2005-01-12  
 14 <160> NUMBER OF SEQ ID NOS: 14  
 16 <170> SOFTWARE: PatentIn version 3.2  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 19  
 20 <212> TYPE: DNA  
 21 <213> ORGANISM: Artificial Sequence  
 23 <220> FEATURE:  
 24 <223> OTHER INFORMATION: primer  
 26 <400> SEQUENCE: 1  
 27 ctacccccag aacatcacc  
 30 <210> SEQ ID NO: 2  
 31 <211> LENGTH: 22  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Artificial Sequence  
 35 <220> FEATURE:  
 36 <223> OTHER INFORMATION: primer  
 38 <400> SEQUENCE: 2  
 39 gcactacctc ttcatgggtg cc  
 42 <210> SEQ ID NO: 3  
 43 <211> LENGTH: 18  
 44 <212> TYPE: DNA  
 45 <213> ORGANISM: Artificial Sequence  
 47 <220> FEATURE:  
 48 <223> OTHER INFORMATION: primer  
 50 <400> SEQUENCE: 3  
 51 catcagtcac atacccca  
 54 <210> SEQ ID NO: 4  
 55 <211> LENGTH: 22  
 56 <212> TYPE: DNA  
 57 <213> ORGANISM: Artificial Sequence  
 59 <220> FEATURE:  
 60 <223> OTHER INFORMATION: primer  
 62 <400> SEQUENCE: 4  
 63 cagtgaacat gtgatccac cc  
 66 <210> SEQ ID NO: 5  
 67 <211> LENGTH: 13  
 68 <212> TYPE: DNA

*pp 2-4*  
**Does Not Comply**  
**Corrected Diskette Needed**

19

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RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/10/521,206

DATE: 01/25/2005  
 TIME: 09:48:39

Input Set : A:\PTO.FG.txt  
 Output Set: N:\CRF4\01252005\J521206.raw

69 <213> ORGANISM: Artificial Sequence  
 71 <220> FEATURE:  
 72 <223> OTHER INFORMATION: internal mass standard  
 74 <400> SEQUENCE: 5  
 75 tttttctttt tct  
 78 <210> SEQ ID NO: 6  
 79 <211> LENGTH: 22  
 80 <212> TYPE: DNA  
 81 <213> ORGANISM: Artificial Sequence  
 83 <220> FEATURE:  
 84 <223> OTHER INFORMATION: primer  
 86 <400> SEQUENCE: 6  
 87 ggggaagagc agatatatac gt  
 90 <210> SEQ ID NO: 7  
 91 <211> LENGTH: 24  
 92 <212> TYPE: DNA  
 93 <213> ORGANISM: Artificial Sequence  
 95 <220> FEATURE:  
 96 <223> OTHER INFORMATION: primer  
 98 <400> SEQUENCE: 7  
 99 ggggctccac accggcgactc tcat  
 102 <210> SEQ ID NO: 8  
 103 <211> LENGTH: 18  
 104 <212> TYPE: DNA  
 105 <213> ORGANISM: Artificial Sequence  
 107 <220> FEATURE:  
 108 <223> OTHER INFORMATION: primer  
 110 <400> SEQUENCE: 8  
 111 agaggatcca accgagac  
 114 <210> SEQ ID NO: 9  
 115 <211> LENGTH: 23  
 116 <212> TYPE: DNA  
 117 <213> ORGANISM: Artificial Sequence  
 119 <220> FEATURE:  
 120 <223> OTHER INFORMATION: primer  
 122 <400> SEQUENCE: 9  
 123 tggtggtagg tgatgttgat gta  
 126 <210> SEQ ID NO: 10  
 127 <211> LENGTH: 22  
 128 <212> TYPE: DNA  
 129 <213> ORGANISM: Artificial Sequence  
 131 <220> FEATURE:  
 132 <223> OTHER INFORMATION: primer  
 134 <400> SEQUENCE: 10  
 135 cacattgtca aggacgtacc cg  
 138 <210> SEQ ID NO: 11  
 139 <211> LENGTH: 20  
 140 <212> TYPE: DNA  
 141 <213> ORGANISM: Artificial Sequence

*give source of genetic material  
 (see item 11  
 on Enor  
 summary  
 sheet)*

13

22

24

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## RAW SEQUENCE LISTING

DATE: 01/25/2005

PATENT APPLICATION: US/10/521,206

TIME: 09:48:39

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\01252005\J521206.raw

143 <220> FEATURE:  
144 <223> OTHER INFORMATION: primer  
146 <400> SEQUENCE: 11  
147 taccgcgcgt acttggcctc 20  
150 <210> SEQ ID NO: 12  
151 <211> LENGTH: 21  
152 <212> TYPE: DNA  
153 <213> ORGANISM: Artificial Sequence  
155 <220> FEATURE:  
156 <223> OTHER INFORMATION: primer  
158 <400> SEQUENCE: 12  
159 tccacgcaca aacacggaca g 21  
162 <210> SEQ ID NO: 13  
163 <211> LENGTH: 100  
164 <212> TYPE: DNA  
165 <213> ORGANISM: Artificial Sequence  
167 <220> FEATURE:  
168 <223> OTHER INFORMATION: template *give source*  
170 <400> SEQUENCE: 13  
171 taccckgagg ccaagtacgg cgggtacgtc cttgacaatg tgtacatcaa catcacctac 60  
173 caccatgtca gtctcggttg gatcctctat tgtgtccggg 100  
176 <210> SEQ ID NO: 14  
177 <211> LENGTH: 110  
178 <212> TYPE: DNA  
179 <213> ORGANISM: Artificial Sequence  
181 <220> FEATURE:  
182 <223> OTHER INFORMATION: template  
184 <400> SEQUENCE: 14  
185 gaaggagaca cgcgccaga gagggtcctg tccgtggttg tgcgtggagt ttcgacaagg 60  
187 cagggtcatc taatggtgat gagtcctatc cttttctctt cgttctccgt 110

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/521,206

DATE: 01/25/2005  
TIME: 09:48:40

Input Set : A:\PTO.FG.txt  
Output Set: N:\CRF4\01252005\J521206.raw

valid Line Length:

e rules require that a line not exceed 72 characters in length. This includes spaces.

q#:1; Line(s) 5

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/521,206

DATE: 01/25/2005

TIME: 09:48:40

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\01252005\J521206.raw

- l1 M:270 C: Current Application Number differs, Replaced Current Application Number
- l2 M:271 C: Current Filing Date differs, Replaced Current Filing Date